

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME Racon Incorporated		EMERGENCY TELEPHONE NO. 316-524-3245
ADDRESS (Number, Street, City, State, and ZIP Code) P. O. Box 198, 6040 South Ridge Road, Wichita, Kansas 67201		
CHEMICAL NAME AND SYNONYMS Dichlorodifluoromethane		TRADE NAME AND SYNONYMS Racon-12
CHEMICAL FAMILY Halogenated Hydrocarbons	FORMULA CCl₂F₂	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	N/A		BASE METAL	N/A	
CATALYST	N/A		ALLOYS	N/A	
VEHICLE	N/A		METALLIC COATINGS	N/A	
SOLVENTS	N/A		FILLER METAL PLUS COATING OR CORE FLUX	N/A	
ADDITIVES	N/A		OTHERS	N/A	
OTHERS	N/A				

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Racon-12 is essentially a pure compound.		

SECTION III - PHYSICAL DATA

BOILING POINT (°F) @ 1 ATM	-21.6	SPECIFIC GRAVITY (H ₂ O=1) @ 77° F	1.31
VAPOR PRESSURE (psia) @ 77° F	94.51	PERCENT VOLATILE @ 77° F & 1 ATM BY VOLUME (%)	100
VAPOR DENSITY (AIR=1) @ 1 ATM & 77° F	4.25	EVAPORATION RATE (_____=1)	N/A
SOLUBILITY IN WATER	slight		
APPEARANCE AND ODOR Colorless liquid -- very slight ethereal odor to odorless.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	Non-flammable	FLAMMABLE LIMITS	None	Lel	Uel
EXTINGUISHING MEDIA	N/A				
SPECIAL FIRE FIGHTING PROCEDURES	N/A				
UNUSUAL FIRE AND EXPLOSION HAZARDS	Shipped and stored as a liquefied, compressed gas under pressure.				

The information on this Material Safety Data sheet relates only to Racon-12 and does not relate to its use in combination with any other material, process or mechanism.

C.E.P. Mech - Gfss SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	1000 ppm (estimated)
EFFECTS OF OVEREXPOSURE	Light-headedness, giddiness, shortness of breath, possible narcosis, possible cardiac arrhythmias at high concentrations.
EMERGENCY AND FIRST AID PROCEDURES	Inhalation: Remove to fresh air, call a physician, do not give epinephrine or similar drugs. Skin or eye contact: Flush with water.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Open flames and high temperatures.
INCOMPATIBILITY (Materials to avoid) Certain elastomers, alkali or alkaline earth metals, powdered Al, zinc, beryllium, etc.			
HAZARDOUS DECOMPOSITION PRODUCTS Halogens, halogen acids and carbonyl halides.			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Ventilate area, remove open flames and evacuate premises in case of large spills.
WASTE DISPOSAL METHOD	Permit to evaporate at a rate not to exceed TLV.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Not required in well ventilated areas. Use air masks in high concentrations.		
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES When handling liquid (See IX).		EYE PROTECTION When handling liquid (See IX).
OTHER PROTECTIVE EQUIPMENT		

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store containers in a clean dry area.
Do not heat above 125° F.	
OTHER PRECAUTIONS Excessive skin contact can produce defatting. Liquid contact with skin may produce frost-bite. Safety glasses or goggles should be worn when handling this material.	

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SECTION I

MANUFACTURER'S NAME Rand Chemical Corporation	EMERGENCY TELEPHONE NO. 616-739-7793
ADDRESS (Number, Street, City, State, and ZIP Code) P.O. Box 753, Muskegon, Michigan 49443	
COMMON NAME AND SYNONYMS <u>Glass Cleaner Concentrate</u>	TRADE NAME AND SYNONYMS RAND-CLEER SUPER
CHEMICAL FAMILY Aqueous Solution	FORMULA Formulated Product

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS Isopropanol	< 20	400	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS Propylene glycol mono methyl ether				< 10	100
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
None					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H ₂ O=1)	0.98
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	> 97.0
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (Water = 1)	< 1.0
SOLUBILITY IN WATER	Complete		
APPEARANCE AND ODOR	Clear blue liquid; slight solvent odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	LeI	Uel
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARDS None			

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SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

Irritation of eyes. In some extreme cases, nausea.

EMERGENCY AND FIRST AID PROCEDURES Eyes: flush with flowing water immediately and continuously for 15 minutes. Get medical aid. Skin: wash off with plenty of water. Inhalation: remove to fresh air if effects occur. Get medical aid. Ingestion: induce vomiting if recommended by physician.

SECTION VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

None

HAZARDOUS
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Add absorbent. Remove with shovel.

WASTE DISPOSAL METHOD

Burn in accordance with local laws.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

Do not breathe vapors for prolonged or repeated periods.

VENTILATION

LOCAL EXHAUST

SPECIAL

MECHANICAL (General)

OTHER

PROTECTIVE GLOVES

EYE PROTECTION

Safety glasses

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

General good housekeeping and care.

Keep container closed when not in use to prevent evaporation.

OTHER PRECAUTIONS

Do not take internally. Avoid contact with eyes. Keep away from

heat, spark or flame. Keep out of reach of children and incompetent

persons.